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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/09/2003

Walter Fleischmann

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EXAMINER

SAWHNEY, HARGOBIND S

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/731,344	Applicant(s) FLEISCHMANN ET AL.	
	Examiner Hargobind S. Sawhney	Art Unit 2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,7,9-15,17-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,7,9-15,17-23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/27/05, 2/9/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed on September 12, 2007 has been entered. Accordingly:
 - Claims 1, 12 and 20 have been amended; and Claims 2, 4-6, 8, 16 and 24 have been canceled.

Claim Objections

2. Claims 12-15 and 17-19 are objected to because of the following informalities:

Claim 12 (amended), line 5, " so as to selectively represent flashing Or moving light" does not clearly indicate whether the LEDs must have capability of representing the above-indicated lighting pattern; or the LEDs can -capable of- represent selectively flashing , twinkling, color changing or moving lights.

Appropriate correction is required.

Claims 13-15 and 17-19 are necessarily objected because of their dependency on the objected base claim 12.

Claim 12 has been examined considering " so as to represent" as – can represent --.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 7, 9-15, 17-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,871,981 B2 (Alexanderson et al.) in view of US Patent No. 6,396,466 B1 (Pross et al.).

Regarding Claim 1, Alexanderson et al. discloses an aircraft cabin lighting system (Figure 1) comprising plurality of light emitting diodes (LEDs) 111 connected in series (Figure 9), and the LEDs 111 arranged at a cabin wall of aircraft cabin (Figures 1 column 2, lines 10, 11, 66 and 67; and column 3, lines 1-4). The plurality of light emitting diodes (LEDs) 402 connected in series (Figure 9) operationally coupled to a power regulator capable of pulse width modulation (Column 4, lines 1 and 2), which making the LEDs 402 actuatable – capable of - to selectively represent flashing, twinkling, color changing or moving lights.

However, Alexanderson et al. does not specifically teach the LED-based lighting system operationally coupled to a control unit, a pulse width modulator and a plurality of regulating modules arranged in the manner as claimed by the applicant.

On the other hand, Pross et al. discloses an LED-based lighting system (Figure 4) comprising:

- A plurality of LEDs 9 actuatable by pulse width modulation means included in the control module 5' – combination including the control 5 and the logic circuit 8 (Figures 3 and 4, column 4, lines 31-34); a control device 5' with a plurality of outputs (Figure 4, column 4, lines 35-39); and regulating modules 15 interposed between the control unit 8' and the LED lighting

units 9 (Figure 4, column 4, lines 39-45); each of the regulating modules 15 connected to respective one of the outputs of the control device 8' (Figure 4, column 4, lines 39-45); each of the regulating modules 15 having an output connected to a separate one of the lighting LED unit string 9 (Figure 4); actuation of the LED lighting units 9 being independent from each other – based in dedicated regulation modules 15 (Figure 4, column 4, lines 39-45); and each of the regulating modules 15 holding current passing through the LED string 9, and keeping the LEDs string 9 at constant current (Figure 4, column 4, lines 39-45).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to further modify the aircraft cabin lighting system of Alexanderson et al. by providing:

- The control device as taught by Pross et al. for the benefits energy saving and operational flexibility of interior illumination;
- A pulse width modulator as taught by Pross et al. for the benefits of switch-mode power supply at regulated voltage;
- Regulating modules for controlling the current as taught by Pross et al. for the benefits of substantially constant light output from the LEDs, and for longevity of operational life of the LEDs.

Regarding claims 3 and 7, 9 -11, Alexanderson et al. in view of as taught by Pross et al. discloses the aircraft cabin lighting system further comprising:

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- The simultaneously actuated plurality of units 111 being connected in parallel with each other, and further connected to the output of control unit 8' (Pross et al., Figure 4);
- The plurality of LEDs 111 mounted at the cabin ceiling usable for displays (Alexanderson et al., Figure 1);
- The plurality of LEDs 111 being actuatable for selectively color-changing pattern Pross et al., Figure 1, column 1, lines 37-39);
- The arrangement of the LEDs 111 usable for displaying information on the duct panel 106 (Alexanderson et al. column 3, lines 4-7);
- The actuation of the lighting produce by the LEDs 111 with a dimmer control 906 coupled to an event seeking passenger's attention (Alexanderson et al. Figure 11, column 6, lines 53-55); and a plurality of LEDs 111 being connected in series in each of the LED strings (Alexanderson et al. Figure 9).

Regarding claims 12- 15 and 17-19, Alexanderson et al. in view of Pross et al. discloses the aircraft cabin lighting system meeting the limitations in similar manner as that applied to respective claims 1, 3 and 7-11 discussed above.

Regarding claims 20-23 and 25-27 Alexanderson et al. in view of Pross et al. discloses the aircraft cabin lighting system meeting the limitations in similar manner as that applied to respective claims 1, 3 and 7-11 discussed above.

Response to Amendment

5. Applicant's arguments filed on September 12, 2007 with respect to the 35 U.S.C. 103(a) rejections of claims 1, 3, 7 and 8-27 have been fully considered but they are not persuasive.

Argument: None of the art of the record suggests or teaches the LEDs actuatable so as to selectively represent flashing, twinkling, color changing or moving lights.

Response: Each of the claims 1 and 20 recites the limitation "actuatable by means of pulse width modulation so as to selectively represent flashing, twinkling, color changing or moving lights". The recitation "actuatable" has been broadly interpreted as "capable of" performing a function. The above limitation is not a positive limitation, but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Further, in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

Argument: Alexanderson et al. does not in any manner disclose any feature that deemed to be applicable to the invention as claimed.

Response: As discussed in section 4 above, Alexanderson et al. discloses an aircraft cabin lighting system comprising plurality of light emitting diodes (LEDs) connected in series, and the LEDs arranged at a cabin wall of aircraft cabin (Figures 1 column 2, lines 10, 11, 66 and 67; and column 3, lines 1-4).

Argument: Combination of Pross et al. with Alexanderson et al. or any other prior art cited by the examiner would not render it obvious a system as set forth and claimed herewith.

Response: As discussed in section 4 above, Alexanderson et al. in view of Pross et al. meets the limitations of claims 1, 12 and 20. Alexanderson et al. discloses an LED-based lighting system for interior illumination, and the teaching, LED based lighting system, of Pross et al. is suggested to modify the lighting system of Alexanderson et al. Thus, the combination of Alexanderson et al. and Pross et al. properly supports obviousness.

Argument: There is no suggestion of being capable of utilizing the arrangement in Pross et al. for lighting system for interior illumination.

Response: As detailed in section 4, Pross et al. is employed to modify the lighting system to meet the limitations of the respective claims. Pross et al. has been referred as the secondary reference. The secondary references need not be teaching all the features of the

pending claims. A prior art reference is analogous, and is in the field of applicant's endeavor. Further, the reference is reasonably pertinent to the particular problem.

One cannot show nonobviousness by attacking references individually, if the limitations are met with combination of references.

Argument: Pross et al. does not suggest independent and individual actuation of the different LED chains.

Response: As discussed in section 4 above, and taught in column 4, lines 1-1, 2 and 39-45, Pross et al. teaches independent actuation of the different LED chains.

Argument: The prior art referred in the office action would not in any manner lead one of ordinary skill in the art even remotely suggest the present invention, set forth in the claims.

Response: As discussed in section 4 above, Alexanderson et al. in view of Pross et al. meets the limitations of claims 1, 12 and 20. Alexanderson et al. discloses an LED-based lighting system for interior illumination, and the teaching, LED based lighting system, of Pross et al. is suggested to modify the lighting system of Alexanderson et al.

Thus, Alexanderson et al. in view of Pross et al. meets the limitations of the respective claims including claims 1, 12 and 20.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S. Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 8:00 AM - 4:30 PM/30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jong-Suk (James) Lee can be reached on 571 272 7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/15/2007

A handwritten signature in black ink, appearing to read "J. Lee", is positioned above the printed name and title.

JONG-SUK (JAMES) LEE
SUPERVISORY PATENT EXAMINER